

REMARKS

The Examiner's attention to the present application is noted with appreciation.

The Examiner objected to claims 11, 14, 17, 21, 24, and 27 as being multiple dependent claims depending from a prior multiple dependent claim. This has been cured by amendment, above.

The Examiner rejected claim 2 under 35 U.S.C. § 112, second paragraph, as indefinite for employing "effective amount". The rejection is traversed. One of ordinary skill in the art would understand the term as relating to an amount necessary to the function of the substance, as in the case of In re Watson, 186 U.S.P.Q. 11, 35 (CCPA 1975) (claim 1 recited "an effective amount of a germicide" held to be definite).

The Examiner rejected claims 1-10, 12, 13, 15, 16, 18-20, 22, 23, 25, 26, and 28-31 under 35 U.S.C. § 103(a) as being unpatentable over Burns et al. ("Burns"). The rejection is traversed, particularly as to the claims as amended. Burns is directed to a concentrated antifreeze/coolant (having less than 4 wt% water), not to a pre-diluted one as in the present invention comprising at least approximately 50 wt% deionized water (supported by Tables in the specification) with particular characteristics.

Automobile coolant is prepared by diluting a coolant composition with water. At an automobile plant, a coolant composition is pumped into huge tanks and diluted with calculated amounts of water in the tanks. Ordinary users or mechanics calculate required amounts of coolant and water, pouring the coolant and then the water into the car radiator and then using the car engine to blend the mixture in the radiator. If calculations are performed wrong, the coolant will not function properly and problems in the radiator will ensue. All this requires space, labor, and installation costs. The present invention saves space, cost, time, and labor.

Furthermore, at present as much as 800,000 tons of automobile coolant is produced and consumed annually in the United States alone. Such coolants typically contain about 2-6 wt% metal corrosion inhibition agents and scale forming inhibition agents (totaling about 1,600 to 4,800 tons

annually in the United States). The present invention provides improvements leading to about a 10% reduction in these agents, thus saving about 160-480 tons in the United States annually. This reduction contributes to preservation of natural resources and reduction of environmental hazards.

Being filed herewith is a Petition for Extension of Time to March 3, 2003, which is the first business day following March 2, 2003, with the appropriate fee. Authorization is given to charge payment of any additional fees required, or credit any overpayment, to Deposit Acct. 13-4213. A duplicate of this paper is enclosed for accounting purposes.

Attached hereto is a marked-up version of the changes made to the specification and/or claims by the current amendment. The attached paper is captioned "Version with Markings to Show Changes Made."

An earnest attempt has been made to respond to each and every ground of rejection advanced by the Examiner. However, should the Examiner have any queries, suggestions or comments relating to a speedy disposition of the application, the Examiner is invited to call the undersigned.

Reconsideration and allowance are respectfully requested.

Respectfully submitted,

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Version with Markings to Show Changes Made

In the Claims:

Please amend the claims as follows:

1. (Amended) A pre-diluted coolant for use without water which provides effective metal corrosion inhibition and retains efficient mechanical seal function, comprising as its base component a member selected from the group consisting of deionized water having a specific resistance of $10 \times 10^4 \Omega \text{ cm}$ or higher with [where] corrosive ions and scale forming ions [are practically] having been removed, [or] ethylene glycol aqueous solution prepared using such deionized water, and [or] propylene glycol aqueous solution prepared using such deionized water, and wherein said pre-diluted coolant comprises at least approximately 50 percent by weight said deionized water.

11. (Amended) A pre-diluted coolant according to claim 9 [or 10], wherein amine salts and borates are excluded and not contained.

14. (Amended) A pre-diluted coolant according to claim 12 [or 13], wherein amine salts and borates are excluded and not contained.

17. (Amended) A pre-diluted coolant according to claim 15 [or 16], wherein amine salts and borates are excluded and not contained.

21. (Amended) A pre-diluted coolant according to [any of] claim[s] 18[-20], wherein nitrites are excluded and not contained.

24. (Amended) A pre-diluted coolant according to claim 22 [or 23], wherein nitrites are excluded and not contained.

27. (Amended) A pre-diluted coolant according to claim 25 [or 26], wherein nitrites are excluded and not contained.